



FOSTER WHEELER ENVIRONMENTAL CORPORATION

November 24, 1997
File #: 1284-0018-97-0945

Commanding Officer
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113
Attn.: Code 4023 (S. Lehman)

Subject: US NAVY CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0018-06, NAWC WARMINSTER, PA
October, 1997 GROUNDWATER PUMP & TREAT SYSTEM MONTHLY REPORT

Dear Mr. Lehman:

This letter report provides the results of the October, 1997 sampling and the activities performed during the reporting period from October 1, 1997 through October 31, 1997. The groundwater treatment plant operated 98.6% of the reporting period.

As of October 31, 1997 (2400 hours) a total of 719,247 gallons of groundwater had been treated during the period from October 1, 1997 through October 31, 1997. This brings the total amount of water treated to 22,325,321 gallons (October 31, 1997). During October, 1997 the average effluent flowrate was 16.1 gpm.

The process water was sampled on October 22, 1997, the results of this sampling are presented in the attached table. This data shows that no discharge limits were exceeded during the October, 1997 reporting period.

There was one alarm/system induced shutdown during the reporting period. There were no operator induced shutdowns during the reporting period:

1. October 16, 1997 - CMCS computer crashed, operator re-booted and re-started system.

The following maintenance was performed on the groundwater treatment system during October, 1997:

1. Air compressor 1000 hour maintenance performed.
2. Ran all chemical feed systems with water. (Chemicals are currently not being used in the treatment system).
3. Ran sludge transfer pumps.
4. Continued labeling of process tanks.

In addition, on October 16, 1997 Brown and Root initiated a pumping test for wells in Area D, with the discharge being connected to the equalization tank of the treatment system. A flowrate of approximately 70

gpm was expected, and there were no problems experienced by the treatment system. A similar pumping test was run on October 29, 1997 with the same results.

The Tetrachloroethene concentration in the groundwater influent to the system was 5.6 ug/l, with a total of 0.034 pounds of Tetrachloroethene removed during the October, 1997 reporting period. The total amount of Tetrachloroethene removed through October 31, 1997 is 2.033 pounds.

Calculation:
Average PCE concentration = 5.6 ug/l
Average water flowrate for month of October, 1997 = 16.1 gpm
Pounds of PCE removed = (16.1 gpm)(44,640 min)(5.6 ug/l)(3.785 l/gal) (1 g / 1,000,000 ug)(1 lb / 454 g) = 0.034pounds of PCE

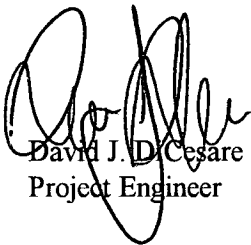
The scheduled dates which Foster Wheeler Environmental's operator will be on-site during the month of December, 1997 are presented in the attached schedule.

If you should have any questions or comments regarding the October, 1997 reporting period, please feel free to contact either me at 215-702-4007 or Dave DiCesare at 215-702-4074.

Sincerely,



Carl Dannenberger, CHMM
Project Manager



David J. DiCesare
Project Engineer

cc: L. Monaco (USEPA)
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A. Wills (Bucks Co. Dept. of Health)
D. Fennimore (Earth Data Inc.)
A. Holcomb (FWENC)
File



**Foster Wheeler Environmental Corporation
NAWC, Warminster Groundwater Pump and Treatment Plant
Operator Schedule for December, 1997**

Monday, December 1, 1997
Wednesday, December 3, 1997
Monday, December 8, 1997
Wednesday, December 10, 1997
Monday, December 15, 1997
Wednesday, December 17, 1997
Monday, December 22, 1997
Monday, December 29, 1997



FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAWC, WARMINSTER GROUNDWATER PUMP AND TREAT PLANT
SAMPLING RESULTS - OCTOBER, 1997

FWENC - Sample ID		DO-0018-06-001	DO-0018-06-02	DO-0018-06-003	DO-0018-06-004	DO-0018-06-05	DO-0018-06-06	DO-0018-06-007	
Sample Location		Area C Influent	Equalization Tank Effluent	Inclined Plate Separator Effluent	Sand Filter Effluent	Air Stripper Effluent	Lead Carbon Unit Effluent	Treatment Plant Effluent	Discharge Limits
Sample Date	Method	22-Oct-97	22-Oct-97	22-Oct-97	22-Oct-97	22-Oct-97	22-Oct-97	22-Oct-97	Instantaneous Maximum
Total Discharge (gal.) thru 10/31/97									719,247
Average Discharge Flowrate (gpm) for October, 1997									16.1
pH	EPA 150.1	7.3	7.9	N/A	7.9	N/A	N/A	8.3	6.0-9.0
Total Suspended Solids (mg/l)	EPA 160.2	6	<1	<1	<1	N/A	N/A	<1	75 mg/l
Total Organic Carbon (mg/l)	415.1/EPA600	N/A	BDL	N/A	N/A	N/A	BDL	BDL	-
Carbon Tetrachloride	EPA 8260A	N/A	BDL	N/A	N/A	BDL	BDL	BDL	4.2 ug/l
Tetrachloroethene	EPA 8260A	N/A	5.6	N/A	N/A	BDL	BDL	BDL	10.0 ug/l
Trichloroethene	EPA 8260A	N/A	BDL	N/A	N/A	BDL	BDL	BDL	42.5 ug/l
Vinyl Chloride	EPA 8260A	N/A	BDL	N/A	N/A	BDL	BDL	BDL	0.27 ug/l
1,1-Dichloroethene	EPA 8260A	N/A	BDL	N/A	N/A	BDL	BDL	BDL	0.85 ug/l
Cadmium	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	4.0 ug/l
Copper	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	24.0 ug/l
Lead	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	11.0 ug/l
Zinc	SW846	N/A	25.4	N/A	BDL	N/A	N/A	26.9	157 ug/l
Arsenic	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	0.27 ug/l
Aluminum	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	1875 ug/l
Total Iron	SW846	N/A	187	N/A	BDL	N/A	N/A	101	3600 ug/l
Total Manganese	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	3750 ug/l
Mercury	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	0.045 ug/l
Total Cyanide (mg/l)	SW846 9010A	N/A	<0.02	N/A	<0.02	N/A	N/A	<0.02	-
Chromium (+6) - (mg/l)	SW846 7196	N/A	<0.01	N/A	<0.01	N/A	N/A	<0.01	23.2 ug/l

NOTES:

1 - All concentrations are in ug/l unless otherwise noted.
N/A - indicates compound was not analyzed for.
BDL - Below Detection Limits

**Foster Wheeler Environmental Corporation
NAWC, Warminster Groundwater Pump and Treatment Plant
Operator Schedule for November, 1997**

Monday, November 3, 1997
Wednesday, November 5, 1997
Monday, November 10, 1997
Wednesday, November 12, 1997
Monday, November 17, 1997
Wednesday, November 19, 1997
Monday, November 24, 1997